

I Claim:

1. A prosthesis to replace all or a portion of a cephalad portion of a natural facet joint on a vertebral body comprising

5 a prosthesis body accommodating fixation to the vertebral body at or near a pedicle and without support by a lamina, and

the prosthesis body adapted and configured to replace all
10 or a portion of a cephalad portion of a natural facet joint.

2. A prosthesis according to claim 1

wherein the artificial facet joint structure is adapted and configured to replace a natural articular
15 process of a cephalad portion of a natural facet joint.

3. A prosthesis according to claim 1

wherein the artificial facet joint structure is adapted and configured to replace a natural articular process of a cephalad portion of a natural facet joint
20 after removal of at least some of a lamina from the vertebral body.

4. A prosthesis according to claim 1

wherein the artificial facet joint structure is adapted and configured to replace a natural articular
25 process of a cephalad portion of a natural facet joint after removal of at least part of an accessory process from the vertebral body

5. A prosthesis according to claim 1

wherein the artificial facet joint structure
30 is adapted and configured to replace a natural articular process of a cephalad portion of a natural facet joint after removal of at least part of a transverse process from the vertebral body.

6. A prosthesis according to claim 1

35 wherein the artificial facet joint structure

is adapted and configured to replace a natural articular process of a cephalad portion of a natural facet joint after removal of at least part of a pedicle from the vertebral body.

5 7. A prosthesis according to claim 1
wherein the artificial facet joint structure
is adapted and configured to replace a natural articular process of a cephalad portion of a natural facet joint
after removal of at least some of the natural articular
10 process from the vertebral body.

15 8. A prosthesis according to claim 1
wherein the artificial facet joint structure
is adapted and configured to replace a natural articular process of a cephalad portion of a natural facet joint
after removal of at least some of the natural articular
process and of at least some of a lamina from the
vertebral body.

20 9. A prosthesis according to claim 1
wherein the artificial facet joint structure
is adapted and configured to replace a natural articular process of a cephalad portion of a natural facet joint
after removal of at least some of the natural articular
process and of at least some of an accessory process from
the vertebral body.

25 10. A prosthesis according to claim 1
wherein the artificial facet joint structure
is adapted and configured to replace a natural articular process of a cephalad portion of a natural facet joint
after removal of at least some of the natural articular
30 process and of at least part of a transverse process from
the vertebral body.

35 11. A prosthesis according to claim 1
wherein the artificial facet joint structure
is adapted and configured to replace a natural articular process of a cephalad portion of a natural facet joint

after removal of at least some of the natural articular process and of at least part of a pedicle from the vertebral body.

12. A prosthesis according to claim 1
5 wherein the artificial facet joint structure is adapted and configured to replace a natural articular process of a cephalad portion of a natural facet joint, and

10 wherein the prosthesis body is adapted and configured to replace at least some of a lamina of the vertebral body.

13. A prosthesis according to claim 1
wherein the artificial facet joint structure is adapted and configured to replace a natural articular 15 process of a cephalad portion of a natural facet joint, and

wherein the prosthesis body is adapted and configured to replace at least some of a mamillary process of the vertebral body.

20 14. A prosthesis according to claim 1
wherein the prosthesis body is adapted and configured to replace at least some of a lamina of the vertebral body.

25 15. A prosthesis according to claim 1
wherein the prosthesis body is adapted and configured to replace at least some of a mamillary process of the vertebral body.

16. A prosthesis according to claim 1
30 wherein the artificial facet joint structure is adapted and configured to articulate with a caudal portion of a facet joint of an adjoining vertebral body.

17. A prosthesis according to claim 1
wherein the artificial facet joint structure is made of at least one selected prosthetic material.

35 18. A prosthesis according to claim 17

wherein the selected prosthetic material includes polyethylene, rubber, tantalum, titanium, chrome cobalt, surgical steel, bony in-growth material, ceramic, artificial bone, or a combination thereof.

5 19. A method of replacing, on a vertebral body, all or a portion of a cephalad portion of a natural facet joint using the prosthesis defined in claim 1 to provide improved support for the spinal column, the method comprising the steps of

10 (i) removing all or a portion of a natural articular process of the cephalad portion of the natural facet joint from the vertebral body, and

15 (ii) fixing the prosthesis as defined in claim 1 to the vertebral body to replace the removed portion of the natural articular process with the artificial facet joint structure.

20 20. A method according to claim 19 further including a step of removing at least part of an accessory process from the vertebral body.

21 21. A method according to claim 19 further including a step of removing at least part of a transverse process from the vertebral body.

22 22. A method according to claim 19 further including a step of removing at least 25 part of a pedicle from the vertebral body.